THE GAS SUPPLY OF BOSTON.*

I.

PERHAPS no companies coming under the designation of "municipal monopolies" offer a more profitable or interesting subject of study than the gas companies. None could well come into closer contact either with the municipal government or with the public at large. All scientific students of modern social and economic conditions, recognizing gas as a necessity of our present civilization, admit that the gas supply must be in the hands either of the public or of a private monopoly under strict public control. The belief that competition works advantageously in the supply of this and similar services has long been abandoned by careful observers; but, unfortunately, the general economic ignorance of the mass of voters, played upon by interested promoters and speculators, has kept the legislative world from accepting the doctrine of monopoly in this industry. The fact that the gas business is highly technical gives, according to American practices, an excellent opportunity for the corporations

* The chief sources of information on this subject are: —

(1) The reports of hearings on lighting bills, held by legislative committees during the sessions of 1884, 1885 (two committees), 1886, 1887 (two committees), 1888, 1889, 1890, 1891, 1894, 1896, and 1897. Except for the years 1896 and 1897, these have all been printed. In every case the counsel on both sides have printed their arguments in full. The report for 1885 includes the report of a special investigation by the State Board of Health on water gas.

(2) The special investigation by order of the legislature of 1893 on the alleged illegal action and relations of certain of the Boston companies (House Document 1008 of 1893). This makes a volume of more than 1000 pages, and is a veritable mine of information.

(3) The annual reports since 1861 of the State Gas Inspector, and the annual reports since 1886 of the Board of Gas and Electric Light Commissioners.

The technical journals of the gas industry and the complete files of all the Boston dailies for the last thirteen years, as well as the miscellaneous literature on the subject, have been consulted; but every material statement of fact is based on sworn testimony or official record.

conducting the business to keep their accounts secret, and then make vague and unconfirmed claims as to the cost of manufacturing and as to the importance of new inventions, discoveries, and processes.

So far as my observation goes, no other single portion of municipal experience shows in such glaring light the weakness of American governments, and at the same time illustrates so many important phases of the problem of the management and control of private corporations, as the history of the gas supply of Boston and the manipulation of the stocks and debts of the companies engaged in it. The handling of Boston gas securities by foreign (*i.e.*, extra-state) corporations, organized expressly for that purpose, makes a distinct and remarkable chapter in the development of the business corporation and trust. The history of the financiering of these companies, with all their evasions and circumventions of law, is doubly interesting, in view of the fact that Massachusetts is recognized as second to no State in the Union either in the intelligence and high character of her citizenship and legislature or in the care with which she drafts and enforces her laws. The fact that these things go on in Massachusetts is noteworthy also from the fact that she alone of all the States has established an able, honest, and permanent State commission, whose duty it is not only to see that the gas companies conform to all the laws of the State, but also, within a very wide discretion, to protect the consumer against wrong and injustice where no law protects him. It is but fair to say at this point that the events of which I write began before the Gas Commission was established in 1885; but they have continued since that date. Moreover, it may be said here, further, that, notwithstanding the unsatisfactory condition of the gas situation in Boston to-day, the history of the attempts of the State of Massachusetts to control her gas companies during the last thirteen years offers not only some of the most interesting,

but also some of the most promising experiments in the annals of our American commonwealths.

In the present paper I propose to discuss some points in this exceptionally unique history.

The Boston Gas Light Company was organized by special charter in 1822, with a capital stock of $75,000. After the customary diseases of failure, reorganization, and the like, to which infant corporations in those days were subject, it settled down in 1836 to supply Boston proper with gas. With increase of business came increase of capital by special legislative permission. In 1874 the company found itself with a paid up share capital of $2,500,000, and authority to add a million to this at its pleasure. But this authority has never been used, and the capital stands to-day where it did in 1874. In 1861 the State established the office of State Gas Inspector, and provided for the first official inspection in this country of the lighting power and purity of all gas sold in the State. By an act of 1852 the Boston company was required to sell any new issues of stock for cash, and not below par. A similar provision was introduced into the general law of 1868. This, also, forbade the payment of dividends in anything but cash, and prohibited the paying of cash dividends from the proceeds of the sale of stock. The act of 1868 was followed by that of 1873, requiring all increase in the capital stock of existing companies to be sold at auction.

From time to time proposed new companies sought from the city and the State the privilege of entering into competition with the Boston company in the territory already occupied by it. Until 1884—almost two generations after the founding of the Boston company—no attempts at actual competition were made. But new companies were chartered by the State, with rights of operating in Boston and its suburbs, subject to the consent of the local authorities controlling the streets. The

outcome of this was the organization and operation of several suburban companies, some of which are now wholly within the corporate limits of the city. If the territory of any one of these overlapped that of the Boston company, the two came to an understanding, by which the Boston company remained in exclusive control of the city and the new company of the suburb. For instance, when the Roxbury company was established, the Boston company sold its pipes in Roxbury to the new company. Thus any actual paralleling of pipes was avoided.

This process continued until 1874, when there were in all seven companies within the corporate limits and one without the city, supplying gas to Boston each in a separate district. These companies had share capital — all supposed to have been paid in cash in full — and mains, as follows: —

	Date of organization.	*Capital.*	*Miles of pipe.*
Boston Company	1822	$2,500,000	105
Charlestown Company	1846	500,000	25
Roxbury Company	1852	600,000	48
South Boston Company	1853	440,000	21
East Boston Company	1853	220,000	10
Jamaica Plain Company	1853	173,000	18
Dorchester Company	1854	400,000	33
		$4,833,000	260

In addition to the above the Brookline company, organized in 1853 with a total capitalization in 1874 of $350,000, had the right, after 1854, of supplying the Brighton district of Boston with gas. Meantime something like a dozen additional companies had been organized, but after an ephemeral existence had disappeared, leaving no traces behind.

The Boston company was at this time selling 612 million feet of gas at a nominal price of $2.50 per thousand; but reductions for public lighting and rebates to large private consumers brought the net average down to $2.39 per thousand. The six minor companies were together

selling 231 million feet at prices ranging from three to four dollars per thousand. All the companies were paying dividends of from 8 to 10 per cent. annually. The Boston company had for many years paid 10 per cent., with 11 per cent. for a single year. In addition to this dividend the company was adding to its plant from year to year from its surplus earnings.

About this time great improvements, tending to cheapen the cost of manufacturing gas, were taking place everywhere, and wealth and population were rapidly increasing. It was plain therefore that if these companies could hold their respective fields and maintain traditional prices, their prospects for large gains without the necessity of great enterprise were very good.

Under these circumstances, especially when so-called competition was rife elsewhere in this business, it is not strange that attempts to form competing companies became frequent and persistent. It goes without saying, too, that the complaints against the old companies, necessary to pave the way for the new ones, were carefully cultivated by interested parties. Public hearings in favor of a new competing company were given as early as 1867. In 1874 a new company was actually organized, with an authorized share capital of $1,000,000. The board of aldermen held long public hearings on the advisability of permitting this company to compete. The report of these hearings was considered of enough importance to be printed in full (229 pages). As usual in such cases, the new company set forth the beauties of competition as the only means of procuring cheap gas, and vaunted new processes by which it would be enabled to sell gas at $2.00 instead of $2.50 per thousand feet. There was no pretence that the Boston company was corrupt or a violater of any law. But the cry was, "Down with monopoly!" It was said that the Boston company, having what it considered a sure and rich monopoly, was under

no inducement to adopt new processes or means of cheapening the cost of manufacture, and consequently would never lower the selling price. The management was declared to be ultra-conservative and even antiquated. The petition of the new company was denied, but the pressure of outside interests for an entrance into the Boston gas field was so great that the city government in 1877 appointed an excellent commission of three persons to consider the whole question of the relation of the public to the gas supply. A liberal appropriation was made for the purposes of this investigation. The commission, consisting of Mr. C. F. Choate, Mr. John F. Osgood, and Dr. E. S. Wood, presented an elaborate and highly creditable printed report, based on a thorough study of the general nature and theory of the business, and on all the facts obtainable under our practice of allowing corporations of this kind to regard their books and accounts as strictly private. The conclusions of the commission are in keeping with the best theoretical views which have been reached to our own time. The commission showed the impossibility of effective competition, set forth the necessity of monopoly, and recommended control of the monopoly, through strict publicity of accounts, by means of an independent and impartial commission. While not indorsing public ownership as a desirable solution of the problem, the commission recommended that the city seek from the State the authority to establish its own gas plant, as a menace to bring the companies to terms and keep them in check until permanent and effective means of control could be perfected.

Here the matter rested until 1884, when a new company, organized under the general law, was kept out by the veto of Mayor Martin. This company never did any business, but the organization was maintained; and after several transfers the ownership passed to the Bay State Gas Company, of which more hereafter.

So far, although the gas companies had wisely refrained from attempts at competition, they had been owned at home, and controlled and managed by those amenable to local opinion. They had, further, in all essentials kept the spirit as well as the letter of the law.

Meanwhile discoveries had been made elsewhere, enabling gas to be made by the decomposition of water instead of by the distillation of coal. This process was so much cheaper than the old ones that a revolution in the whole industry was inevitable. Any large city could now offer an enormous harvest to the owner of water gas patents. Consolidation of corporations of all sorts had already become the order of the day. Besides this the owner of such patents now had a key which was certain to effect an entrance to almost any gas field under the claim of cheaper processes. At the same time the new process was so little known to the general public that the owners alone could have any idea of what would be a fair price for gas made by that process.

In 1884 Mr. J. Edward Addicks, of Philadelphia, appeared upon the scene in Boston with strong financial backing, and fairly loaded down with water gas patents. In December of that year he formed the Bay State Gas Company of Massachusetts, with a capital stock of $500,000, the maximum allowed under the general law of 1879. A new era in the municipal history of Boston began when this company sought permission to lay pipes throughout the whole city. Permission was finally voted by the board of aldermen, 7 to 5, after incorporation of an amendment offered by Mr. Hart, afterwards mayor, to the effect that the permission was conditioned on the acceptance of the agreement on the part of the company actually to parallel all the gas pipes in Boston. The mayor approved this vote on February 16, 1885. On the same day the company filed its acceptance with the city, stating that it "agrees that it will at once commence laying pipe

in every section of Boston, and will not stop the work until it has laid pipe in every street, lane, and highway in which gas pipes are now laid." A vigorous effort was made in the board of aldermen to fix the maximum price of gas at $1 by this ordinance, but the amendment to that effect was lost.

In 1880, probably at the instigation of the coal gas companies, but upon the suggestion of the State Gas Inspector, the legislature had passed an act prohibiting the sale of gas containing more than 10 per cent. of carbonic oxide. This act effectually barred all water gas. It was passed without attracting any particular attention, and apparently without any conception of its true significance on the part of the legislature or of the public. The statutory provisions in regard to the maximum capital stock of gas companies, and the virtual prohibition of the sale of water gas, made the old companies feel reasonably safe at the beginning of the Bay State enterprise. But the vigor, daring, and methods of the new company soon caused them to change their minds. For the Bay State Company let no session of the legislature go by, including the one before the company was organized, without making onslaughts on that body for the permission to increase the capital stock to $5,000,000, to manufacture water gas, and to lease and consolidate with all the other companies in Boston. It was probably the influence of the different gas companies at the State House, from 1884 to 1891, more than that of any other interests, that called forth the scathing denunciation of the lobby by Governor Russell in his first inaugural address, January 8, 1891, and led to the act regulating the lobby.

The subsequent history of the Bay State Company shows that, although it signed the agreement to compete, and although the law fixed its maximum capital at $500,000, and forbade the sale of water gas, it intended to consolidate the companies, and then sell water gas, and some-

where and somehow raise enough money to carry out this consolidation. The company began, almost as soon as it got its permit, to construct enormous plants for the manufacture of water gas, and to lay large pipes which could easily be connected with the distributing systems of the old companies. The old companies became greatly alarmed at this, as well as at the financial operations of the Bay State, and finding themselves unable to meet the cry of cheaper gas through new processes and competition, sought the protection of the State in other ways. In the legislative session of 1885, among an avalanche of bills for controlling corporations of various sorts, was one for creating a board of gas commissioners with greater powers of inspection and control over these companies than any other State commission in any State has ever been given over any kind of corporations. This bill, which, after a most bitter struggle, finally became chapter 314 of the Acts of 1885, was drawn by the attorney of the Boston Gas Company, introduced into the board of aldermen by his brother, indorsed by the city government, and then introduced to the legislature upon petition of the city of Boston.

Before taking up the work of this commission, let us follow for a time the further activities of the Bay State Company. By continuous and vigorous effort it overcame the opposition to its various demands in the legislature by two acts approved on the same day (May 29, 1888) so far as to obtain a virtual permission to make water gas and to increase its capital stock to $2,500,000. The permission to increase its capital stock made the issue subject to the general laws on that subject. These conditions were so stringent and so foreign to the company's method of doing business that it never issued any stock under this act.

But, before the passage of these acts, the company had engaged in some of the boldest and most remarkable

financiering to be found in the history of American corporations. On March 11, 1885, the Bay State Company, by vote of its directors, made a contract with the founder of the company, Mr. J. Edward Addicks, for the construction of its works for the sum of $4,950,000, of which $450,000 was to be paid in cash, and $4,500,000 in the form of a ninety-nine-year obligation, bearing interest at the rate of nine-tenths of the net earnings of the company. This obligation was to be exchangeable for stock of the company, provided the legislature should authorize additional issues of stock. When Mr. Addicks entered into this contract to build the works, he owned more than 98 per cent. of the stock of the company. The board of directors not only entered into this contract, but at the same meeting at which they voted to accept the terms of the contract they ordered the treasurer to sign, seal, and deliver this obligation for $4,500,000. Therefore, when this obligation was delivered on March 11, 1885, the company had none of its capital stock paid in, had no assets, and owed $4,500,000 for building its works, on which no labor had yet been expended. The terms of the contract were such as to allow the contractor to do little or much under it, as he liked. It is probable that the price agreed upon was sufficient to pay for the building of works with a capacity equal to half the total supply of Boston at that time, say four and one-quarter million feet, and to parallel all the pipes in the city. Instead of this the contract called for the completion of the plants with a maximum capacity of four million feet, and the "laying of at least 100 miles of mains," all to be ready for use not later than January 1, 1890. There were at that time, in actual use in Boston, from 300 to 350 miles of mains.

This contract, entered into about a month after the permission to lay pipes in the city was obtained, as well as the size and position of pipes laid, and the petitions of the company always pending in the legislature, indicates that

not competition, but consolidation, was the aim of the company from the outset. Some years later the attorney for the company said the company looked upon the agreement exacted from it by the board of aldermen as void from the beginning, as the company denied the right of the city to attach conditions of any sort to such a permit, and that eminent special counsel supported this view. He maintained, however, that the company meant to compete, but found the opposition of the people to tearing up the streets so great that it was forced to discontinue the laying of pipes and to consolidate the companies. He went further, and said there had always been great opposition to opening the streets, citing as evidence especially the establishment of the Gas Commission, and that paralleling of pipes was not only an annoyance to the public, but a wholly unnecessary expense,—a waste of capital. In saying this, he seemed to forget that the only plea by which the company gained an entrance into the city was that such tearing up of the streets was necessary in the public interest. If the aldermen were not convinced by this plea, there must have been good ground for the suspicion, freely expressed, that they were not convinced at all, but admitted the company for considerations not made public. Be that as it may, the above utterance shows how short is the memory of corporation officers and counsel. The Bay State Gas Company, notwithstanding the argument by which it gained admission to the city, and the agreement it signed in accepting its location, has from that day to this had so profound a respect for the opinions of those who are opposed to frequent opening of the streets, the unnecessary paralleling of pipes and duplication of plants, that it has laid, in round numbers, but fifteen and one-half miles of pipes. That the company took this view of pipe laying has probably been a gain for the Boston gas consumer as well as for the company.

Turning our attention for the moment away from this

contract, let us follow the corporate action of the Bay State Company. The records of the company show that on September 3, 1885, the capital stock of $500,000 was paid in cash. Due return of this fact was made by the proper officers under oath to the Secretary of the Commonwealth. On the same day, September 3, 1885, the company paid the Beacon Construction Company, assignee of the contract to build the works, the sum of $450,000 and lent it $50,000 at 2 per cent. interest. The transactions of September 3 may have met the technical provision of law that the share capital should be paid in cash; but, on the face of it, the payment was fictitious, as an accommodation check would have served every purpose.

Although at this time the contractor had assigned the contract to the Beacon Construction Company, he had lost none of his interest in it, as he still controlled both the gas company and the Construction Company. The net result was that on the evening of September 3 the gas company had spent the money paid for its share capital, had no assets of any kind except a note for $50,000, and besides this owed $4,500,000. In fact, the company at this time had no office or fixed place of business, and apparently no business to be done. For nearly a year after this the company, in its corporate capacity, seems to have been in a comatose condition. The next official action we hear of is on August 18, 1886. At that meeting the directors, by separate specific votes, approved (1) the contract with J. Edward Addicks to build the works, (2) the issue of the $4,500,000 obligation, (3) the payment of the $450,000 in cash, and (4) the loan of the $50,000 to the Construction Company. To make assurance doubly sure, it was voted, "that all the acts, doings, and contracts of the directors of the company during the years 1884, 1885, and 1886, be, and the same are hereby, ratified, confirmed, and approved." This was not a meeting of the stockholders, but of the directors, who were thus rati-

fying and approving their own acts. As the company had virtually no assets and was apparently waiting for the completion of the work of the Construction Company, its official action for some years does not concern us. The records of this period show no activity save in regard to pending legislation along the lines already suggested. It may be noted, however, that, notwithstanding the small amount of assets and of business to be done, the treasurer was ordered on July 15, 1887, to pay each of the two attorneys of the company $10,000, and on September 13, 1887, the salary of the treasurer was fixed at $6,000 per annum. Presumably, these payments were made from the proceeds of the $50,000 note.

At a directors' meeting held March 23, 1889, it was voted to accept the work already done by the Construction Company, as the equivalent of that called for by the contract. This vote expressly noted the fact that the work done was not that provided for in the contract; but the officers of the Construction Company (being the same as the officers of the gas company) reported that what they had done had been done as the result of an understanding with the officers and stockholders of the gas company. Thereupon it was voted that the contract had been performed to the complete satisfaction of the company. It was further expressly voted that the Construction Company be allowed to retain the obligation for $4,500,000 and the $450,000 in cash. On the same day a stockholders' meeting, by a unanimous vote, ratified this action of the directors. It was not a very difficult thing for the directors, when they were once assembled, to get the stockholders together. All the shares of the company, except seven, had, almost from the beginning, been held by one person. The whole history of the company shows no sales of the stock.

It is extremely difficult to estimate the cash value of the work done by the Construction Company, although an enormous amount of evidence, under oath, has been taken

from almost every one connected with the enterprise, as well as from others supposed to be competent. The State of Massachusetts, for the purposes of taxation, supervision, and control, requires separate annual reports of the condition of such corporations to be made under oath to the Tax Commissioner, the Gas Commission, and the Secretary of the Commonwealth. From a careful comparison of all these returns, which are widely divergent for the same year, and from a study of a great mass of evidence on this point, taken at two investigations ordered by the legislature, probably a sufficiently accurate estimate for our present purposes would be $700,000 for all the work done and the property turned over by the Construction Company. At the time that the contract was "completed" the company is supposed to have held real estate acquired directly from Mr. Addicks at a cost of about $50,000, including the filling of it in. It had also acquired, apparently from the same source, patent rights, which it carried on its books at $250,000. For purposes of the "franchise" tax, as levied on all Massachusetts corporations, the company must report to the State Tax Commissioner the amount of its local assessment, which represents the value of its real property and machinery as locally assessed. Deducting this local assessment from the estimated value of the company's shares, we have the value of the "franchise" for purposes of taxation.

A comparison of the value of the property or assets shown by these different sets of returns for several years will be interesting.

Under the head of debts and bonds, in the returns both to the Gas Commission and to the Secretary of the Commonwealth previous to the "completion" of the $4,950,000 contract, is a reference in a foot-note to this unfulfilled contract, with the statement that "the exact amount of its indebtedness cannot, therefore, be accurately stated." It would perhaps have been more accurate, in-

Returns to Gas Commission as of June 30 each year.		Returns to local assessors as of May 1 each year.		Returns to the Secretary of the Commonwealth.	
Year.	*Value of assets.*	*Year.*	*Value of assets.*	*Year.*	*Value of assets.*
1885,	no return.	1885,	no return.		
1886,	$76,000.00*	1886,	$76,000.00*		
1887,	876,956.00†	1887,	202,000.00		
1888,	826,000.00	1888,	202,000.00		
1889,	4,974,554.74‡	1889,	501,300.00	1889§,	$779,451.52
1890,	4,974,554.74‡	1890,	526,300.00	1890‖,	5,047,145.24

asmuch as this obligation had been issued some years before and bandied about among many companies all controlled by the same people, to say that "the value of the assets cannot therefore be accurately stated." Nothing in any of these reports previous to 1889 shows that anything had been paid on this contract for $4,950,000. In the report to the Gas Commission in 1889, under "Bonds or notes issued," this obligation for $4,500,000 is put down as issued March 11, 1885.

The testimony, under oath, of one of the directors of the company, who had sworn to both the returns of January 1 and of June 30, 1889 (the one to the Secretary of the Commonwealth, the other to the Gas Commission), is interesting as to what additions to the actual property of the company were made during this period, such as to increase the value of the assets nearly tenfold. The questions and answers are as follows: —

Question. "Isn't it a fact . . . that the variation in these two items actually represents substantially book-keeping, the making up of books?" *Answer.* "Well, of course it is book-keeping, as all accounts are."

Question. "And not actual additions of property between those two dates?" *Answer.* "Well, it would be

* All of it real estate. † Including $250,000 for patent rights.

‡ Real estate, machinery, appliances, and mains all lumped at $4,950,000, although they had been separately listed in earlier reports.

§ As of January 1. ‖ As of June 2.

folly, of course, for any one to suppose that there had been those additions to the property between those two dates."

Leaving the Bay State Company for a moment, let us go back to consider the outside activity of its promoters. Armed with the obligation for $4,500,000 and the contract on which it was based, Mr. Addicks went to Philadelphia, and formed, March 19, 1885, under the general laws of Pennsylvania, the Beacon Construction Company, referred to above, for the sole purpose of constructing the Bay State works. Of the 15,000 shares of the capital stock, he took 14,980, assigned his contract to the newly organized company, and paid for his shares by transferring to that company the obligation for $4,500,000. This contract, as required by law, was by special vote of the subscribers to the stock of the Construction Company appraised as worth in cash the equivalent of 14,980 shares of the stock at par, or $1,498,000. This left but 20 shares of the stock to be paid for in cash. Mr. Addicks afterwards disposed of large portions of his holdings in this stock, retaining about 51 per cent. of the whole, to give him complete control of the company. How much he realized altogether from these sales it is impossible to determine, but certain sales can be traced. For instance, on September 12, 1887, he received in cash from the Boston Gas Syndicate, to be explained later, $900,000 for 6,000 shares of this stock, or $150 per share.

This obligation for $4,500,000, which, by the way, the courts and the legislature have never been able to classify or designate more definitely than by the phrase "one certain obligation," is always called a "bond" in the assignment of it. The obligation was afterwards assigned by the Construction Company to one Herman G. Mulock, who in turn on August 12, 1887, assigned it to the Peninsular Investment Company of Delaware. This was a corporation organized by Mr. Addicks, under special charter, April 24, 1889, for the sole purpose of holding

the stock and securities of the Boston gas companies. The company, by permission granted in its charter, immediately upon its organization changed its name on August 7, 1887, to "The Bay State Gas Company of Delaware," by which name it is still known. What financial, legislative, or corporate exigencies required this double assignment of the obligation for $4,500,000 cannot be determined by an outsider; for Mr. Mulock appears to have had no interest in it, but to have acted solely for the Bay State promoters. So far as appears, there was no investment of cash in these two transfers. On the contrary, the object of the transactions seems to have been simply to get the obligation into a position where its original holders could draw an income from it. The nominal consideration named in these two transfers was the same,— namely, $5,000,000; but no money passed, the payment being made by means of $3,000,000 worth of stock and $2,000,000 of 7 per cent. non-cumulative income bonds of the Delaware company. The charter of this company might well be called an unlimited license to roam abroad, deal in and hold the stock and bonds of any other gas company. The charter named $100,000 as the nominal capital, but authorized an increase by vote of the stockholders "to such an amount as they may from time to time deem needful." The company began by issuing $5,000,000 on August 7, 1889. Apparently, none of this was paid for in cash; but, within a week of the vote authorizing the issue, $3,000,000 out of the $5,000,000 was given to the Beacon Construction Company in return for the obligation for $4,500,000. About a year ago (in 1897) the company suddenly issued additional capital to the extent of $45,000,000, which it is supposed to have disposed of for cash at from $2 to $5 a share; the par value of the shares being $50. Why the company deemed this large increase of its capital stock "needful" will be explained in a later article.

The facts already recited, as well as the subsequent history of the Bay State companies, clearly show that the promoters of these companies had but one object from the beginning; and that object was the combination or consolidation of the gas companies in and about Boston. This is plain, although such combination was supposed to be absolutely prohibited at that time by the laws in force in Massachusetts. All the activities of the various companies referred to so far were simply preliminary to consolidation. In the light of this fact, it goes almost without saying that, notwithstanding the argument by which the Bay State Company gained entrance into Boston, and the agreement it signed to parallel all the pipes in the city, it had no desire or intention of duplicating any of the systems of pipes, except as such paralleling might be necessary to keep up appearances until the main purpose could be attained. Almost from the organization of the Bay State Company of Boston, and especially after the issue of the obligation for $4,500,000, the public began to have vague fears that combination, and not competition, would be the result of admitting the Bay State Company, unless more stringent legislation were enacted. The other gas companies were constantly in fear of being swallowed.

The Bay State had already acquired the charter rights of the Consumers' Company, which had never made any use of its franchises. The Gas Commission, in its first report (January, 1886), called attention to the obligation for $4,500,000, questioned the legality of the contract on which it was based, and declared the transactions of the Bay State Company in this connection to be a clear evasion of the restraints supposed to be imposed on gas companies by the statute fixing the maximum capital stock of each one at $500,000. Reference was also made in this report to the fact that the legislature in its session of 1885 had refused, after full consideration, to grant this particular company an increase of capital stock. The

commission also made some unfavorable comments on the condition of gas-works leased to or owned by absentees. These expressions seemed to be an echo of the discussion on this point which took place at the time the Bay State Company got its locations in Boston. To justify its fears in this connection, the Commission called the attention of the legislature to a prospectus of the Bay State Gas Company of Pennsylvania, Limited, "whose sole function shall be to hold in its treasury the securities of the Bay State Gas Company of Boston." The prospectus also stated that, notwithstanding the limitation upon capital, this obligation for $4,500,000 had been issued, and that this obligation and all the stock of the Bay State Company of Boston, "excepting a small number of shares necessary to keep up the organization," would be held in trust by a Philadelphia trust company for the benefit of the Bay State Gas Company of Pennsylvania. In view of all these facts the commission recommended additional legislation. The result was an act of June 30, 1886, which largely increased the powers of the commission over the books, accounts, and reports of the companies, and forbade any company to issue bonds in excess of its paid up capital stock. It forbade also the issue of any bonds below par or at a rate of interest greater than 6 per cent. The act further required that the proceeds of all bond issues should be used to extend the plant, to pay debts incurred for this purpose only, or to pay debts of any other kind contracted before the passage of this act. Section 4 of this act, aimed more specifically at the Bay State Company, reads as follows: —

> No gas company shall transfer its franchises, lease its works, or contract with any person, association, or corporation to carry on its works without the authority of the legislature.

The passing of this act may look like locking the stable door after the horse has been stolen; but it should be

remembered that this was comparatively early in the history of the Bay State Company, and all of its doings were covered up as much as possible. The Gas Commission had just been appointed, and its members were all unfamiliar with gas-works, gas manufacturing, gas company financiering, and gas accounts. In fact, they were not only new to every phase of the situation and business, but they were also entering on an entirely untried field of public activity, without precedents elsewhere to guide them. Under these circumstances, they could not be expected to give either the time or the skill required to investigate all the subsidiary and auxiliary enterprises of the Bay State promoters. At this time, also, the obligation for $4,500,000, inasmuch as virtually no work had yet been done on the contract on which it rested, seemed of decidedly doubtful legal effect. In fact, when the legislature was compelled some years later to act on it, the view apparently taken was that the obligation was not legally issued until the works were completed. The summary destruction of this obligation by legislative fiat probably prevented a judicial determination of this point. If, however, this view were correct, the act of 1886 would have been a legal bar to the issue of the obligation upon the acceptance of the works. But the company had its own opinions on this subject, and, as already stated, accepted the works, and voted that the Construction Company retain the obligation. The interests opposed to the Bay State Company called this a "reissuing" the obligation after the act of 1886.

The Bay State Company of Pennsylvania, referred to above, failed of organization; and consequently the use of the trust company at Philadelphia was given up. However, the Bay State interests organized on February 16, 1889, under the general laws of New Jersey, the Bay State Gas Company of that State. Through this company and the Mercantile Trust Company of New York, they accom-

plished the identical purposes which they failed to carry out under the laws of Pennsylvania by means of the two companies named above.

If some sort of combination was the chief object of the Bay State Company, all these outside companies alone could not accomplish it. The stock of some of the other companies had to be brought under control, and funds had to be raised for that purpose. It is impossible to find out how much money was raised from the stock and securities of the Construction Company. It is not impossible that enough was secured from this source to repay to the promoters the capital stock of the Bay State Company of Massachusetts and to build its works. It seemed imperative now, if the whole scheme were not to fail, that the Bay State Company should gain control of some of the other companies before their great manufacturing plants should be completed, as they were not preparing to distribute gas to private consumers through their own system of pipes.

As a direct means of purchasing a controlling interest in the other companies, the Bay State party organized June 1, 1887, a voluntary association or trust, known as the Boston Gas Syndicate. The object of this was to raise or guarantee funds, and actually purchase a controlling interest in the stock of the other companies in and about Boston. The articles of association named five trustees, who were to receive the subscriptions to the trust funds. They were by the agreement given the widest discretion as to time, place, and manner of carrying out the objects of the trust, which in turn were defined in the vaguest language. The articles of association, however, contained the following statement: "the principal object of this agreement being hereby declared to be to lease or consolidate with said Bay State Gas Company of Massachusetts all the companies herein named or referred to." The companies included in this designation

were all the companies authorized to do business in Boston or "in the towns and cities adjacent thereto" and the Bay State Gas Company of New York.* A further definite object of the trust was the purchase for $900,000 in cash of the six thousand shares of the stock of the Beacon Construction Company already referred to. In regard to all other purchases the trustees were given the greatest liberty as to price, time, place, manner, and method. They were expressly authorized to pay dividends, commissions, interest, and bonuses, to borrow money, and to mortgage any property held by them for its payment. The agreement gave them discretion to distribute any stocks, bonds, or other property purchased by them pro rata among the subscribers to the syndicate, except the six thousand shares of the Beacon Construction Company's stock, which was to be held by these trustees and their assigns in trust forever. The subscription fund was to be limited to $2,900,000, payable in cash, at the call of the trustees. This list shows that subscriptions were actually made, by one hundred and thirty-eight persons in all, to the sum total of $2,430,600. Of this total the five trustees, together with the immediate members of their families and the United Gas Improvement Company of Philadelphia in which they were interested, subscribed $1,953,000, or 80 per cent. of the whole. While these subscriptions were nominally paid in cash, a careful comparison of the dates and cash payments with certain other transactions carried on at the same time, leads to the conclusion that to a large extent these cash payments were fictitious, and that it was unnecessary to provide considerable sums of money until such time as it could be raised on the stocks pur-

* This company, as Mr. Addicks afterwards said on oath, was only a skeleton company, which failed of organization "because there was a doubt as to the powers they would have under the New York laws at that time with regard to holding the stock and bonds of foreign and other corporations." The place of this New York company was afterwards taken by the Bay State Gas Company of New Jersey. The New Jersey and Delaware laws proved to facilitate such schemes more than did those of Pennsylvania and New York.

chased by the syndicate. The process seems to have been somewhat as follows: The trustees of the syndicate entered into agreements to buy the stocks of the Boston gas companies, and also agreements to sell the same stock to the Bay State Gas Company of New Jersey. This company in turn agreed to deposit these stocks in trust with the Mercantile Trust Company of New York, and to issue on such deposit, through the Trust Company, Boston United Gas 5 per cent. fifty-year gold bonds to the extent of $12,000,000. Of this total issue $9,000,000 were to be first series, and $3,000,000 second series, or junior securities. It should be noted, as showing the relation of one of these enterprises to another, that Mr. Addicks always controlled the New Jersey company, which was organized expressly to issue these bonds, and (to use his own language) "because eminent counsel doubted the right of either of the Massachusetts companies to do so." It should be further noted that these bonds are of even date with the income bonds of the Delaware company given in exchange for the $4,500,000 obligation. These Boston United Gas bonds were delivered to the syndicate, and from their sale by the syndicate a large part of the money was procured to pay for the stocks bought. These bonds seem also to have been delivered pro rata in large quantities to the subscribers to the syndicate, who could thus, if need be, raise the money to pay their subscriptions to the syndicate. Of course, the syndicate had meantime to use its credit, and pledge its holdings to carry through so large and complex a transaction. One of the trustees said under oath, some years later, that the trustees had to subscribe personally for a million dollars of the United Gas bonds to keep the whole scheme from failing. The syndicate paid about $6,150,000 for the shares of the Boston Gas Light Company alone. This sum had to be raised over and above the amounts originally subscribed to the syndicate, as the stocks of the other companies purchased cost just about as

much as the subscriptions amounted to. The extent of the credit transactions is shown also by the cash book of the syndicate. From this it appears that the total cash subscriptions practically equalled the value at par of the whole issue of $3,000,000 second series United Gas bonds, and that the payment of the subscriptions and the delivery of these bonds to the subscribers took place substantially at the same time. In fact, a slight excess of subscriptions over this issue of bonds was made up by the promissory notes of the company issuing the bonds; and these, too, were distributed pro rata among the subscribers.

Assuming that all subscriptions to the syndicate were paid in cash, let us see what the subscribers got in the way of securities* for their cash investment. The records show that, when the stocks purchased were placed in trust, for every cash subscription of $1,000 the subscriber received $1,000 in the second series United Gas bonds, $100 in the income bonds of the Bay State Company of Delaware, and $600 in stock of the Bay State Company of Delaware. That is, he got securities whose face value was 170 per cent. of the amount subscribed.

The conditions under which the Boston United Gas bonds were to be issued were not all fulfilled on the part of the syndicate for a number of years, as will be explained later. As a result, but $7,000,000 of the first series and all of the second series were issued at the beginning. It seems that, with the exception of the $1,000,000 of firsts already referred to as having been taken by trustees of the syndicate, all this series was sold to the outside world to get the money to pay for the stock of the Boston Gas Light Company.

The agreement dated January 1, 1889, by which these stocks were put in trust, is a tripartite one, to which the

* The operations of the syndicate nominally extended over about four years, but the transactions now under consideration occupied about two years. For the use of the funds during this time the subscribers received cash dividends on their subscriptions to the extent of 9⅔ per cent.

three parties are (1) Messrs. J. Edward Addicks and W. E. L. Dillaway,* who style themselves the "owners" of the stocks in question, (2) the Bay State Gas Company † of New Jersey, and (3) the Mercantile Trust Company of New York.

A careful analysis of the terms of these trust deeds will be necessary as a basis for a discussion of the history (postponed for a future article) of the companies "captive" under the trust. For the present let us consider the extent and character of the stocks deposited and the securities representing them. The following table will be of use in showing these facts at the date of the issue of the $7,000,000 first series and $3,000,000 second series Boston United Gas bonds: —

Name of Company.	*Total No. shares.*	*No. shares trusteed.*	*Par value of shares trusteed.*	*Amount paid for shares trusteed.*
Boston Company . .	5,000	4,984	$2,492,000	$6,129,320
Roxbury Company . .	6,000	5,993	599,300	1,248,425
South Boston Company	4,400	3,964	396,400	544,600
Bay State Company .	5,000	4,993	499,300	499,300
				150,000‡
Total	—	—	$3,987,000	$8,571,645

Thus the stocks put in trust cost, on the average, 215 per cent. of their par value. This could scarcely be called a bad bargain for those who sold the stocks. Can the

* Mr. Dillaway was from the beginning one of the promoters and the chief counsel of the Bay State companies.

† It is a strange commentary on the way in which American business corporations are allowed to run riot that this company was organized solely because of some unforeseen delay in organizing the Bay State Gas Company of Delaware, and that it is made a party to these trust deeds dated January 1, 1889, while its own certificate of incorporation bears date of February 16, 1889. That is, it was a party to this contract about seven weeks before it had legal existence. It is true the contract was not executed until March 20, 1889. It is understood that, pending the organization of the New Jersey company, the Beacon Construction Company acted for it. As soon as these trust deeds were executed and the bonds issued, the company, by contract, assigned all of its interests to the Delaware company.

‡ This item of $150,000 was paid by the syndicate to the directors of the Boston company as a bonus, in addition to the $6,129,320 paid for the stock of that company.

same be said from the point of view of the promoters of the Bay State Company? To answer this question, let us recapitulate summarily the doings of the promoters of the Bay State Gas Company from the beginning of that enterprise until the summer of 1889, when the Boston United Gas bonds were issued and delivered to the Boston Gas Syndicate. First, they had increased the property of the gas plants in Boston, by actual building and apart from the water gas patents, to the extent of probably $750,000. How much money was contributed by these persons from their own resources for this purpose it is impossible to say. Something may have been raised from outsiders on the Beacon Construction Company securities. To establish these manufacturing plants, the Bay State Gas Company of Massachusetts had been formed, with paid up capital of $500,000, and had then been "bonded" for $4,500,000. The promoters had worked through the Beacon Construction Company of Philadelphia, with a nominal capital of $1,500,000, through the Bay State Gas Company of New Jersey, with a nominal capital of $1,000,000, and through the Boston Gas Syndicate, a voluntary association which handled about $10,000,000, buying stocks of the Boston gas companies with a par value of $3,987,000 for $8,571,645. These stocks they had put in trust with the Mercantile Trust Company of New York, to pay the principal and interest of $10,000,000 Boston United Gas Trust bonds, issued through the New Jersey company. This company, after issuing the bonds, had been literally absorbed by the Bay State Gas Company of Delaware, organized for this express purpose. Of course, the Delaware company had to assume all the obligations of the New Jersey company. The Delaware company had at this time issued $5,000,000 of stock, and income bonds to the extent of $2,000,000. This list does not include the two skeleton companies which perished in embryo; namely, the Bay State Gas Company of Pennsylvania and

the Bay State Gas Company of New York. The same individuals had absolutely controlled all of these enterprises from the beginning. The company, in the face of great opposition, had brought the legislature of Massachusetts to permit the sale of water gas, which it alone was prepared to manufacture. But, if water gas could be manufactured cheaper than coal gas, the Bay State Company, having gained control of the three other companies, could now sell water gas through their systems of distribution. The Bay State of Delaware had absorbed the Bay State of New Jersey and the Beacon Construction Company, chiefly by exchanging its stock for theirs. It had purchased the obligation for $4,500,000 in the same manner by an issue of stock and bonds. We may therefore disregard in future the two companies last named. Remembering, then, that before the advent of the Bay State Company to Boston the companies paid about 10 per cent. on their share capital, the question arises whether, with an additional investment of, say, three-quarters of a million dollars (excluding patent rights), these same companies could pay dividends on the small number of shares of these four companies still remaining outside the trust, and have enough left to pay interest on the $10,000,000 Boston United Gas Trust bonds, interest on the $2,000,000 of income bonds of the Delaware company, and dividends on the $5,000,000 of share capital of that company, and at the same time maintain sufficiently large sinking funds to pay the principal of the bonds at maturity. It will be observed that the obligation for $4,500,000 does not affect the problem, since the amount going from the treasury of the Bay State of Massachusetts to pay interest on this furnishes the chief source from which dividends and interest on the securities of the Bay State of Delaware must come. In other words, the promoters of the Bay State Gas Company of Massachusetts formed this multitude of corporations, limited partner-

ships, trusts, syndicates, and contracts with themselves, in five States, to the legislatures (and in some cases to the city councils) of which they have had to make numerous and expensive appeals, all in the attempt to make the property which before paid 10 per cent. on less than $5,000,000 of capitalization, by the addition of about $1,000,000 to the investment (including patent rights), pay interest and dividends on $17,000,000 capitalization. At first blush it would seem that to expect success in this would require a huge faith in water gas processes and extraordinary skill in management, or some magnificent manipulation of resources such as even the Bay State promoters could not confidently anticipate. Yet the selling prices of these securities from the beginning indicated that the holders expected an income on them.

The history of the attempts to pay dividends and interest on this inflated capitalization will be followed in a future article.

JOHN H. GRAY.

NORTHWESTERN UNIVERSITY.